

Amendments to the claims:

Please replace all prior versions and listings of the claims with the following amended claims:

Listing of Claims:

- 1 1. (Currently Amended) A method of treating a pathogen within an oral cavity, the method
2 comprising:
 - 3 a. ~~locating~~ testing for the presence of one or more pathogens within the oral cavity;
4 and
 - 5 b. irradiating target tissue within the oral cavity with pulsed laser light having an
6 energy of 10 Joules/cm² or greater per pulse.
- 1 2. (Original) The method of claim 1, wherein the pulsed laser light comprises a wavelength
2 in a range of 580 to 1800 nanometers.
- 1 3. (Original) The method of claim 1, wherein the target tissue is selected from the group
2 consisting of hard periodontal tissue and soft periodontal tissue.
- 1 4. (Original) The method of claim 2, wherein the target tissue corresponds to a volume of
2 soft periodontal tissue.
- 1 5. (Currently Amended) The method of claim 4, wherein the soft periodontal tissue
2 corresponds to soft periodontal tissue is within a periodontal pocket.
- 1 6. (Original) The method of claim 1, wherein the target tissue is irradiated with the pulsed
2 laser light through an optical fiber.
- 1 7. (Currently Amended) The method of claim 6, wherein the optical fiber is placed within a
2 periodontal pocket containing the target tissue.
- 1 8. (Original) The method of claim 6, wherein the optical fiber has a fiber diameter in a range
2 of 0.05 to 3.0 mm.

- 1 9. (Original) The method of claim 1, wherein the target tissue is irradiated with a fluence of
2 the pulsed laser light that is 350 Joule/cm² or greater.
- 1 10. (Currently Amended) The method of claim 1, wherein ~~the~~ an area of ~~the~~ target tissue is
2 irradiated with 2 Joules ~~of~~ or more of pulsed laser light.
- 1 11. (Currently Amended) The method of claim 1, wherein ~~the~~ an area of target tissue is
2 irradiated with the pulsed laser light for less than 1.0 second.
- 1 12. (Currently Amended) The method of claim 3, further comprising ~~debridement~~ debriding
2 of the target tissue prior to the step of irradiating target tissue.
- 1 13. (Original) The method of claim 1, wherein the one or more pathogens include a
2 pigmented gram (-) anaerobe.
- 1 14. (Currently Amended) The method of claim ~~[[1]]~~ 14, wherein the pigmented gram (-)
2 anaerobe is selected from the group consisting of porphyromonas gingivalis (*Pg*) and
3 prevotella intermedia (*Pi*).
- 1 15. (Currently Amended) The method of claim 1, wherein one or more pathogens ~~includes~~
2 include a pigmented fungus.
- 1 16. (Original) The method of claim 15, wherein the pigmented fungus is a fungus selected
2 from the group consisting of Histoplasma and Aspergillus Niger.
- 1 17. (Original) The method of claim 1, further comprising staining ~~the~~ a bacteria.
- 1 18. (Currently Amended) The method of claim 1, wherein a substantial portion of the one or
2 more pathogens ~~pathogen~~ is eradicated.
- 1 19. (Canceled).
- 1 20. (Currently Amended) A method of treating a periodontal pocket, the method comprising:

- 2 a. generating a sequence of laser pulses at an absorption wavelength; and
3 b. directing the laser pulses to ~~the~~ an outer portion of periodontal tissue such that at
4 least a portion of bacteria within the periodontal ~~tissue~~ pocket is eradicated.

1 21. (Currently Amended) The method of claim 20, wherein the outer portion of periodontal
2 tissue is selected ~~form~~ from the group containing of dentin, cementum, bone and gum
3 tissue.

1 22. (Canceled).

1 23. (Currently Amended) The method of claim ~~[[22]]~~ 23, wherein the laser ~~pules~~ pulses
2 penetrate ~~the surrounding soft periodontal pocket~~ through the outer portion of periodontal
3 tissue by a distance of 1.0 mm or more.

1 24. (Original) The method of claim 20, wherein the laser pulses are generated with a
2 Nd:YAG laser.

1 25. (Original) The method of claim 20, wherein the laser pluses have energy concentrations
2 of 17 Joules/cm² per pulse or greater.

1 26. (Currently Amended) The method of claim 20, wherein the laser pulses are directed to the
2 outer portion of periodontal tissue from an optical fiber.

1 27. (Original) The method of claim 26, wherein the optical fiber has a fiber diameter in a
2 range of 0.5 to 3.0 mm.

1 28. (Original) The method of claim 20, wherein the bacteria is a pigmented gram (-)
2 anaerobe.

1 29. (Currently Amended) The method of claim 20, wherein the pigmented gram (-) anaerobe
2 is selected ~~form~~ from the group consisting of phorphyromonas gingivalis (*Pg*), ~~and~~
3 prevotella intermedia (*Pi*) and a pigment fungi.

1 30. (Currently Amended) The method of claim 20, wherein directing the laser pulses to the
2 outer portion of periodontal tissue also eradicates a portion of a pigmented fungus within
3 the periodontal tissue.

1 31. (Original) The method of claim 30, wherein the pigmented fungus is a fungus selected
2 from the group consisting of Histoplasma and Aspirgillus Niger.

1 32. (Original) The method of claim 20, further comprising applying a staining agent within
2 the periodontal pocket, wherein the staining agent stains for the presence of living
3 bacteria.

1 Claims 33-42 (Canceled).